

# United States Patent [19]

Reynolds et al.

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[54] FOCAL SENSOR HAVING OPTICAL LOW PASS FILTER

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[73] Assignee: Honeywell Inc., Minneapolis, Minn.

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[52] U.S. Cl. .... 354/402; 354/479; 250/204; 250/237 G; 350/311; 350/162.24

[58] Field of Search ..... 354/25 R, 25 A, 25 N, 354/25 P, 31 F, 59, 402-409, 479, 482; 250/201, 204, 237 R, 237 G; 350/311, 314, 162.11, 162.15, 162.16, 162.24

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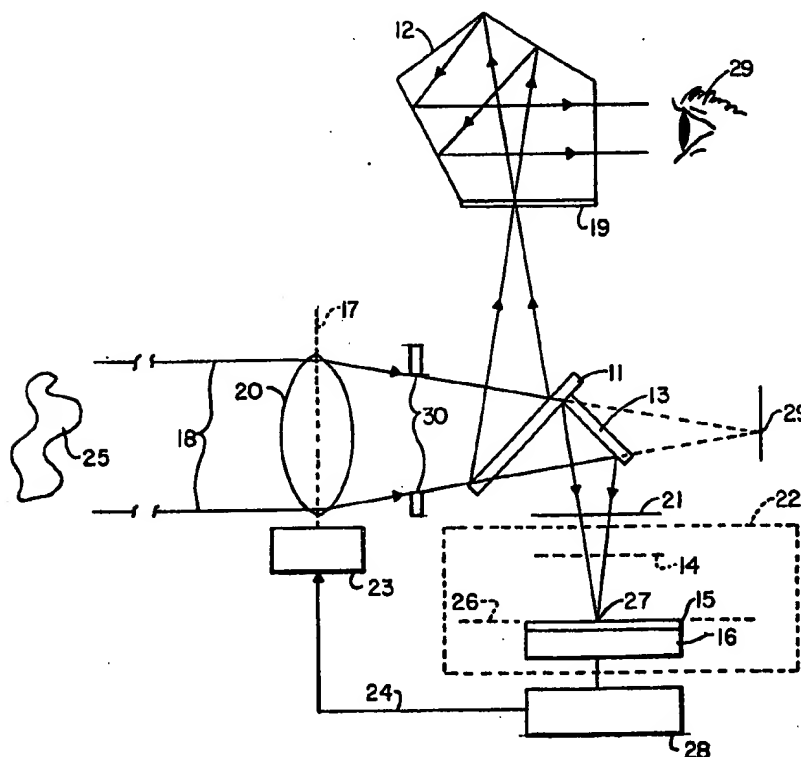
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### [57] ABSTRACT

A system having a scaled anti-aliasing random phase filter for use in optical imaging systems having a sampled focal plane or an automatic focussing device. The filter is scaled so that it may be placed near the focal plane or automatic focus sensing device, yet produce the effect of an anti-aliasing filter at the exit pupil of the optical system. In one example, the filter includes a scaled hologram of a Sayanagi filter located at the exit pupil. In a second example, the filter includes a scaled double chirped diffraction grating.

20 Claims, 5 Drawing Figures



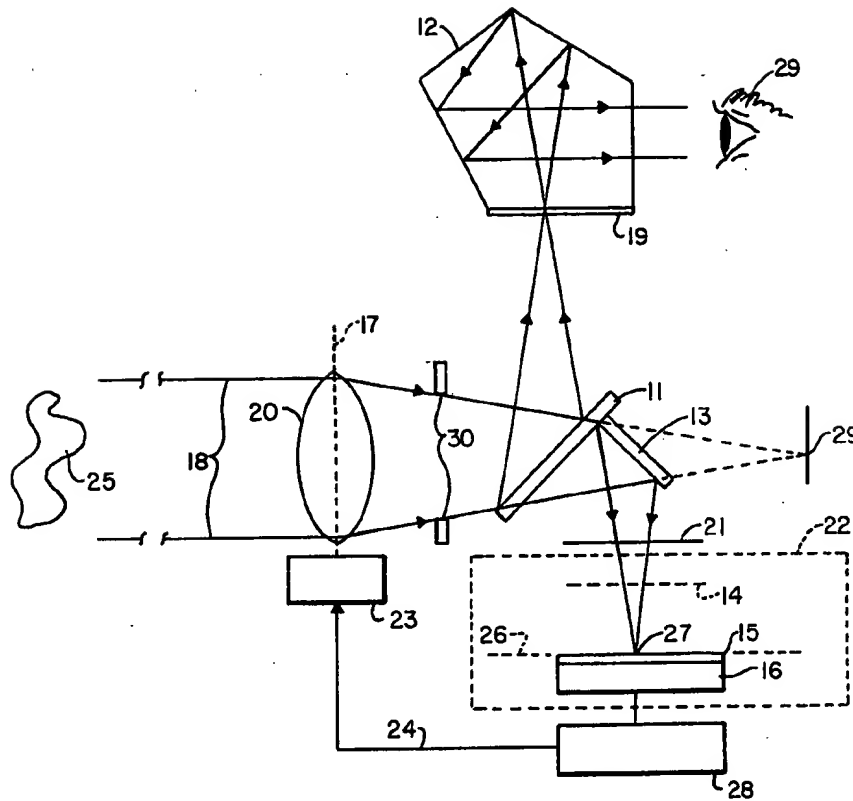


FIG. 2